07/991,237 filed December 16, 1992 now U.S. 5,413,774. This application is a continuation-in-part of application Serial No. 08/288,550 filed August 10, 1994 which is a division of application Serial No. 08/033,435 filed March 18, 1993, abandoned, which is a continuation of Serial No. 07/695,243 filed May 3, 1991, abandoned.--

IN THE CLAIMS

Cancel claims 1-18 and add the following new claims:

--19. A method of ultrasonic imaging comprising administering to a subject a composition comprising, as a suspension in an aqueous liquid carrier phase, microvesicles filled with a gas mixture, in which at least one gas is a physiologically acceptable halogenated gas whose ratio of solubility in water, expressed in liters of gas by liter of water under standard conditions, to square root of the molecular weight, in daltons, is below 0.0027; and ultrasonically imaging at least a portion of said subject.

20. The method of claim 19, wherein the halogenated gas is a freon.

21. The method of claim 20, wherein the freon is CF_4.

22. The method of claim 20, wherein the freon is $CBrF_3$.

23. The method of claim 20, wherein the freon is $CClF_3$.

24. The method of claim 20, wherein the freon is $CC1_2F_2$.

25. The method of claim 20, wherein the freon is C_2ClF_5.

26. The method of claim 20, wherein the freon is $CBrClF_2$.

27. The method of claim 20, wherein the freon is $C_2Cl_2F_4$.

28. The method of claim 20, wherein the freon is C_2F_6.

29. The method of claim 20, wherein the freon is C_4F_8.

30. The method of claim 20, wherein the freon is C_4F_{10}.

31. The method of claim 19, wherein the halogenated gas is SeF_6.

32. The method of claim 19 wherein the halogenated gas is SF_6.

33. The method of claims 19, wherein the gas mixture contains nitrogen.

34. The method of claims 19, wherein the gas mixture contains carbon dioxide.

35. The method of claims 19, wherein the gas mixture contains air.

36. The method of claims 19, wherein the gas mixture contains krypton.

37. The method of claims 19, wherein the gas mixture contains xenon.

38. The method of claims 19, wherein the gas mixture contains argon.

39. The method of claim 19 wherein the microvesicles are microbubbles bounded by a gas/liquid interfacial closed surface made from dissolved surfactants.

40. The method of claim 39, wherein the surfactants comprise lamellar or laminar phospholipids.

41. The method of claim 40, wherein at least part of the phospholipids are in the form of liposomes.

42. The method of claim 41, wherein the liquid carrier phase further contains stabilizers.

43. The method of claim 40, wherein at least one of the phospholipids is a diacylphosphatidyl compound wherein the acyl group is a C_{16} fatty acid residue or a higher homologue thereof.

44. A method according to claim 19 wherein said microvesicles are microbubbles bounded by a gas/liquid interface made from dissolved phospholipids

45. The method of claim 19, wherein the microvesicles are microballoons bounded by a material envelope made of an organic polymeric membrane.

46. The method of claim 45, wherein the polymers of the membrane are selected from polylactic or polyglycolic acid and their copolymers, heat denaturable serum albumin, heat denaturable hemoglobin, polystyrene, and esters of polyglutamic and polyaspartic acids.

47. The method of claim 46, wherein the microvesicles are made from heat denaturable serum albumin and filled with SF_6.

48. The method of claim 46, wherein the microvesicles are made from heat denaturable serum albumin and filled with CF_4.

49. The method of claim 46, wherein the microvesicles are made from heat denaturable serum albumin and filled with $CBrF_3$.